

Application N . 09/719,024
Amendment dated December 23, 2003
Reply to Office action of October 21, 2003
Docket Number 22727/04080

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the above-identified application:

Listing of Claims:

1. - 6. (canceled)

7. (currently amended) A recombinant polynucleotide that comprises a mutant form of a wild-type Begomovirus AL2 open reading frame, and encodes encoding a mutant Begomovirus transcription activator protein, wherein said wild-type Begomovirus AL2 open reading frame encodes a wild-type Begomovirus transcription activator protein having a carboxy terminal domain and a cysteine-histidine domain, and recombinant polynucleotide is a modified open reading frame of a selected wild type AL2 gene from a Begomovirus strain, and wherein said mutant Begomovirus transcription activator protein is a mutant form of a corresponding wild-type Begomovirus transcription activator protein expressed by the selected wild type AL2 gene; said recombinant polynucleotide comprising wherein said mutant Begomovirus AL2 open reading frame comprises a first mutation in the open reading frame region which encodes the carboxy-terminal acidic activation domain amino acid 83 to amino acid 129 of the wild-type transcription activator protein, and a second mutation in the open reading frame region which encodes the cysteine-histidine domain amino acid 23 to amino acid 43 of the wild type transcription activator protein, and wherein the mutant Begomovirus transcription activator protein lacks or has reduced transcription activation and SNF-1 kinase binding activities as compared to the wild-type Begomovirus transcription activator protein, wherein each of said first and second mutations comprises addition to, deletion of, or replacement of one or more amino acids, or a combination thereof.

8. (currently amended) The recombinant polynucleotide of claim 7 wherein said first mutation is in the region open reading frame which encodes the carboxy-terminal 15 amino acids from amino acid 115 to amino acid 129 of the carboxy-terminal acidic activation domain-said transcription activator protein.

9. (currently amended) The recombinant polynucleotide of claim 7 wherein said first mutation is a deletion and said ~~eneeded~~ mutant Begomovirus transcription activator protein has

Application No. 09/719,024
Amendment dated December 23, 2003
Reply to Office action of October 21, 2003
Docket Number 22727/04080

from one to 20 fewer amino acids in the carboxy-terminal acidic activation domain ~~than the corresponding wild-type Begomovirus transcription activator protein as compared to the wild-type Begomovirus transcription activator protein.~~

10. - 11. (canceled)

12. (currently amended) The recombinant polynucleotide of claim 7 wherein said second mutation is a deletion ~~and said encoded~~ whereby the mutant Begomovirus transcription activator protein has from one to 20 fewer amino acids in the cysteine-histidine domain ~~than the corresponding wild-type Begomovirus transcription activator protein as compared to the wild-type Begomovirus transcription activator protein.~~

13. (currently amended) The recombinant polynucleotide of claim 7 wherein said second mutation is a ~~nucleotide~~-substitution ~~and said isolated recombinant polynucleotide a mutant Begomovirus transcription activator protein in which~~ whereby one or more of the cysteine residues located in the ~~central region~~ cysteine-histidine domain of the ~~corresponding wild-type mutant Begomovirus transcription activator protein are substituted as compared to the wild-type Begomovirus transcription activator protein.~~

14. - 16. (canceled)

17. (previously presented) A vector comprising the recombinant polynucleotide of claim 7.

18. (original) The vector of claim 17 wherein said vector is an Agrobacterium.

19. (canceled)

20. (previously presented) A transgenic plant comprising the recombinant polynucleotide of claim 7

21. - 22. (canceled)

23. (previously presented) A method of preparing a transgenic plant, comprising

- (a) providing a sample from a plant which is a host for a Begomovirus;
- (b) transforming said sample with a vector comprising the recombinant polynucleotide of claim 7; and

Application No. 09/719,024
Amendment dated December 23, 2003
Reply to Office action of October 21, 2003
Docket Number 22727/04080

generating a plant from said transformed sample of step (b).

24. (canceled)

25. (currently amended) The recombinant polynucleotide of claim 7, ~~wherein the selected wild type AL2 gene encodes a protein comprising an acidic domain at amino and a cysteine-histidine domain, and~~ wherein said first mutation is a deletion and said second mutation is a substitution, whereby in the acidic domain and said mutant Begomovirus transcription activator protein has from one to 20 fewer amino acids in the carboxy-terminal acidic activation domain than the corresponding wild type Begomovirus transcription activator protein; and wherein said ~~second mutation is a nucleotide substitution and said isolated recombinant polynucleotide encodes a mutant Begomovirus transcription activator protein in which one or more of the cysteine residues located in the cysteine-histidine domain of the corresponding wild type Begomovirus transcription activator protein are substituted~~ as compared to the wild-type Begomovirus transcription activator protein.

26. (currently amended) The recombinant polynucleotide of claim 7, ~~wherein the selected wild type AL2 gene encodes a protein comprising an acidic domain at amino and a cysteine-histidine domain, and~~ wherein said first mutation is a nucleotide substitution and said second mutation is a deletion, whereby ~~and said isolated recombinant polynucleotide encodes a mutant Begomovirus transcription activator protein in which one or more of the hydrophobic or acidic residues located in the carboxy-terminal acidic activation domain of the corresponding wild type Begomovirus transcription activator protein are substituted,~~ and wherein said second mutation is a deletion in the cysteine-histidine domain and said mutant Begomovirus transcription activator protein has from one to 20 fewer amino acids in the cysteine-histidine domain than the corresponding wild type Begomovirus transcription activator protein as compared to the wild-type Begomovirus transcription activator protein.

27. (currently amended) The recombinant polynucleotide of claim 7 wherein said first and second mutations are deletions and wherein the encoded mutant Begomovirus transcription activator protein has from ~~one~~ two to 40 fewer amino acids ~~than the corresponding wild type Begomovirus transcription activator protein as compared to the wild-type Begomovirus transcription activator protein.~~

Applicati n No. 09/719,024

Amendment dated December 23, 2003

Reply to Office action of October 21, 2003

Docket Number 22727/04080

28. (currently amended) The recombinant polynucleotide of claim 7, wherein said first and second mutations are ~~nucleotide~~ substitutions, ~~whereby which encode a mutant Begomovirus transcription activator protein in which~~ one or more of the histidine or cysteine residues located in the cysteine-histidine domain, and one or more of the hydrophobic or acidic residues located in the carboxy-terminal acidic activation domain of the corresponding wild-type Begomovirus transcription activator protein of said mutant Begomovirus transcription activator protein are substituted as compared to the wild-type Begomovirus transcription activator protein.